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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/408,808	09/29/1999	DAVID A. WRIGHT	22-0074	4482

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EXAMINER	
CONTEE, JOY KIMBERLY	
ART UNIT	**PAPER NUMBER**
2681	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/408,808	Wright et al.
Examiner	**Art Unit**
Joy K. Contee	2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Sep 29, 1999*

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-32* is/are pending in the applica

4a) Of the above, claim(s) _____ is/are withdrawn from considera

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11, 19, 20, 22-27, and 29-32* is/are rejected.

7) ☒ Claim(s) *12-18, 21, and 28* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirem

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it contains more than the 150 word maximum requirement. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-5,7-11,19-20,22-27 and 29-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al. ("Takahashi"), U.S. Patent No. 6,240,075.

Regarding claim 1, Takahashi discloses in a processing satellite communications system including at least one processing satellite having a receiver and a transmitter for respectively receiving and transmitting a data cell, a method for virtual path switching of said data cell, the method comprising:

receiving a data cell at one of a plurality of input ports of said processing satellite (col. 2, lines 18-35);

examining an assigned virtual path identifier (VPI) in said data cell to determine a destination output port associated with said assigned VPI (col. 2, lines 35-65); and

transferring said data cell to said destination output port (col. 2, lines 42-45).

Regarding claim 2, Takahashi discloses the method for virtual path switching of claim 1 comprising associating said destination output port with a crosslink to another processing satellite (e.g., satellite 10) (col. 3, lines 50-67 to col. 4, lines 1-21).

Regarding claim 3, Takahashi discloses the method for virtual path switching of claim 1 further comprising: establishing a set of VPIs wherein each VPI is uniquely associated with a single output port on said processing satellite (col. 2, lines 47-67 to col. 3, lines 1-20); establishing a set of virtual channel identifiers (VCIs); assigning said assigned VPI from said set of VPIs and a VCI from said set of VCIs to said data cell (col. 2, lines 62-65); and transmitting said data cell to said processing satellite (col. 3, lines 42-44).

Regarding claim 4, Takahashi discloses the method for virtual path switching of claim 1 further comprising: establishing at least one control subfield indicating a distinct treatment for

data cells (e.g., priority); establishing at least one routing subfield corresponding to one of said output ports (Col. 5, lines 57-67); and dividing said assigned VPI into a control subfield and a routing subfield (col. 6, lines 1-14).

Regarding claim 5, Takahashi discloses the method for virtual path switching of claim 4 wherein said examining step comprises examining said routing subfieid to determine said destination output port (col. 4,lines 64-67 to col. 5,lines 1-5).

Regarding claim 7, Takahashi discloses the method for virtual path switching of claim 5 further comprising examining said control subfield to determine a level of output queuing priority for said data cell (col. 4, lines 34-55).

Regarding claim 8, Takahashi discloses the method for virtual path switching of claim 1 further comprising: providing at least one multicast module on said processing satellite wherein said multicast module is associated with one multicast output port; and providing at least one multicast routing table having memory locations storing addressing information (col. 3,lines 59-67 to col. 4, lines 3).

Regarding claim 9, Takahashi discloses the method for virtual path switching of claim 8 further comprising: establishing a set of VPIs wherein each VPI is uniquely associated with a single output port on said processing satellite, and wherein at least one of said VPIs is a multicast VPI uniquely associated with said multicast output port; and establishing a set of VCIs (col. 2., lines 47-65).

Regarding claim 10, Takahashi discloses the method for virtual path switching of claim 9 further comprising inherently assigning said multicast VPI to said data cell, and assigning a VCI from said set of VCIs to said data cell (col. 11, lines 47-65).

Regarding claim 11, Takahashi discloses the method for virtual path switching of claim 10 wherein said transferring step comprises transferring said data cell to said multicast output port uniquely associated with said assigned multicast VPI (col. 2, lines 47-65).

Regarding claim 19, Takahashi discloses in a processing satellite communications system including at least one processing satellite having a receiver and a transmitter for respectively receiving and transmitting a data cell, a method for expanded address virtual path switching of said data cell, the method comprising:

receiving a data cell at one of a plurality of input ports of a processing satellite; examining an assigned virtual path identifier (VPI) in said data cell to determine a destination output port; attaching a selected routing tag to said data cell, said routing tag identifying a next virtual channel link; and transferring said data cell to said destination output port (col. 2, lines 18-65 and col. 3, lines 59-66).

Regarding claim 20, Takahashi discloses the method for virtual path switching of claim 19 further comprising:

assigning said assigned VPI to said data cell; and assigning a virtual channel identifier (VCI) to said data cell (col. 2, lines 47-65).

Regarding claim 22, Takahashi discloses the method for virtual path switching of claim 19 further comprising storing routing tags in an input routing table, and wherein said step of examining further comprises determining said selected routing tag (col. 3, lines 59-66 to col. 4, line 4).

Regarding claim 23, Takahashi discloses an apparatus for path switching a data cell to a satellite output port for transmission in a downlink, the apparatus comprising:an input module comprising a plurality of input ports; an output module comprising a plurality of output ports; and circuitry responsive to address bits in a data cell and to an assignment of said address bits to said output ports, for coupling said data cell to at least one of said output ports (col. 2, lines 31-65).

Regarding claim 24, Takahashi discloses the apparatus for path switching of claim 23 wherein said data cell is an ATM cell (col. 2, lines 31-45).

Regarding claim 25, Takahashi discloses the apparatus for path switching of claim 23 further comprising an examining circuit for examining a virtual path identifier (VPI) in said data cell (col. 2, lines 31-45 and col. 61-65).

Regarding claim 26, Takahashi discloses the apparatus for path switching of claim 23 wherein said address bits include at least a portion of a virtual path identifier (VPI) (col. 2, lines 61-65).

Regarding claim 27, Takahashi discloses the apparatus for path switching of claim 26 wherein said address bits further include at least a portion of a virtual channel identifier (VCI) (col. 2, lines 61-65).

Regarding claim 29, Takahashi discloses the apparatus for path switching of claim 23 wherein said circuitry is further responsive to a control subfield and a routing subfield, said control subfield indicating special treatment of said data cell (col. 4,lines 34-55).

Regarding claim 30, Takahashi discloses the apparatus for path switching of claim 23 further comprising at least one multicast module connected between said input module and said output module (col. 3, lines 59-66).

Regarding claim 31, Takahashi discloses the apparatus for path switching of claim 30 further comprising at least one multicast routing table connected to said multicast module, said multicast routing table containing multicast group information (col. 3,lines 59-67 to col. 4, line 3).

Regarding claim 32, Takahashi discloses the apparatus for path switching of claim 23 wherein at least one of said output ports is associated with a crosslink to another processing satellite (col. 3, lines 50-66 to col. 4, line 21).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi, in view of Wright et al. ("Wright"), U.S. Patent No. 6,366,776.

Regarding claim 6, Takahashi discloses the method for virtual path switching of claim 5. Takahashi does not explicitly disclose examining said control subfield to determine a level of error control for said data cell.

However, in a similar field of endeavor, Wright suggests examining said control subfield to determine a level of error control for said data cell.(col. 1, lines 60-67 to col. 2,line 8).

At the time of the invention it would have been obvious to one of ordinary skill in the art to have modified Takahashi to include in its output port decoder, error detection and correction for the purpose of adjusting the power level based on the error information as taught in Wright.

Allowable Subject Matter

6. Claims 12-18,21,28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: prior art fails to disclose the method for virtual path switching further comprising:

receiving said data cell by said multicast module associated with said multicast output port; examining said assigned VCI to determine a multicast group of VPIs from said set of VPIs; reproducing said data cell to create a predetermined number of reproduced data cells; and

wherein said step of assigning comprises assigning an externally managed VPI and an externally managed VCI, and wherein said step of examining comprises examining said assigned externally managed VPI in said data cell to determine a destination output port associated with said assigned externally managed VPI; and establishing at least two VPIs corresponding to a single output port; and establishing a set of VCIs.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kunimoto et al., U.S. Patent No. 6,094,433, discloses an ATM switching network and ATM switching system in which the transfer of inputted cells is controlled.

Smith, U.S. Patent No. 6,349,097, discloses multicasting in switching apparatus.

Wakizaka, U.S. Patent No. 6,349,323, discloses an asynchronous transfer mode communication system.

Tirabissi et al., U.S. Patent No. 6,400,925, discloses a packet switch control with layered software.

Falk, U.S. Paten No. 6,295,283, discloses a method for providing connectionless data services over a connection-oriented satellite.

Freeburg et al., U.S. Patent No. 6,128,287, discloses a method of combining cell streams in a radio communication system.

Ganmukhi et al., U.S. Patent No. 5,903,564, discloses an efficient multicast mapping in a network switch.

Brownhill et al., U.S. Patent No. 5,875,189, discloses a method and apparatus for multicast of ATM cells.

Zhou et al., U.S. Patent No. 6,310,879, discloses a method and apparatus for multicast of ATM cells.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joy K.Contee whose telephone number is (703) 308-0149, M-F, 5:30 a.m. to 2:00 p.m.

If attempts to reach the Examiner are unsuccessful, her supervisor, Dwayne Bost can be reached on (703)305-4778.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703)306-0377.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for formal communications intended for entry)

Or:

(703) 308-6306, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Joy K. Contee

July 27, 2002

NAY MAUNG
PRIMARY EXAMINER